



## WORKPLACE SAFETY AND HEALTH IN NORTH CAROLINA



*From The  
National Institute for Occupational Safety and Health*

### State Profile 2002

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*Delivering on the Nation's promise:  
Safety and health at work for all people through prevention.*

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#### **The National Institute for Occupational Safety and Health**

NIOSH is the primary federal agency responsible for conducting research and making recommendations for the prevention of work-related illness and injury. NIOSH is located in the Department of Health and Human Services in the Centers for Disease Control and Prevention. The NIOSH mission is to provide national and world leadership to prevent work-related illness, injury, disability, and death by gathering information, conducting scientific research, and translating the knowledge gained into products and services. As part of its mission, NIOSH supports programs in every state to improve the health and safety of workers. NIOSH has developed this document to highlight recent NIOSH programs important to workers and employers in North Carolina.

#### **The Burden of Occupational Illness and Injury in North Carolina**

- In North Carolina, there are approximately 3.8 million individuals employed in the workforce.<sup>1</sup>
- In 2000, 234 workers died as a result of workplace injuries.<sup>2</sup>
- The construction industry had the highest number of fatalities, followed second by transportation and public utilities, and third by manufacturing.<sup>2</sup>
- In 1999, the most recent year for which data are available, the rate of fatal workplace injuries was 5.6 deaths per 100,000 workers—above the national average rate of 4.5 deaths per 100,000 workers.<sup>2</sup>
- In 2000, there were 171,800 nonfatal workplace injuries and illnesses in North Carolina.<sup>3</sup>

#### **The Cost of Occupational Injury and Illness in North Carolina**

In 2000, the most recent year for which data are available, a total of \$788.4 million was paid for workers' compensation claims by North Carolina private insurers and self-insured employers.<sup>4</sup> This figure does not include compensation paid to workers employed by the federal government and also underestimates the total financial burden for private sector businesses, since only a fraction of health care costs and earnings lost through work injuries and illnesses is covered by workers' compensation. Chronic occupational illnesses like cancer are substantially under-reported in workers' compensation systems because work-relatedness is often difficult to establish.

# **How NIOSH Prevents Worker Injuries and Diseases in North Carolina**

## **Health Hazard Evaluations (HHEs) and Technical Assistance**

NIOSH evaluates workplace hazards and recommends solutions when requested by employers, workers, or state or federal agencies. Since 1993, NIOSH has responded to 48 requests for HHEs in North Carolina in a variety of industrial settings, including the following recent example:

### ***Charlotte, North Carolina: Evaluating Noise Exposures Among Stock Car Racers***

In 2001, NIOSH investigators visited a racing team's race shop and race track to evaluate noise exposures for their potential combined effect on hearing loss of stock car racers. The race track represented the worst case exposure scenario due to its small size, steep banking, and high grandstand configuration. At the race track, investigators found that carbon monoxide levels and noise exposure levels exceeded both the U.S. Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PEL) and the NIOSH Recommended Exposure Limits; at the race shop, noise exposures occasionally exceeded the OSHA PEL. Recommendations included reducing exposures through strategies such as wearing hearing protection with a high enough noise reduction rating to provide adequate attenuation.

## **Fatality Assessment and Control Evaluation (FACE) Investigations**

NIOSH developed the FACE program to identify work situations with a high risk of fatality and to formulate and disseminate prevention strategies. Since 1995, there have been 32 FACE investigations in North Carolina.

## **Fire Fighter Fatality Investigation and Prevention Program**

The purpose of the NIOSH Fire Fighter Fatality Investigation and Prevention Program is to determine factors that cause or contribute to fire fighter deaths suffered in the line of duty. NIOSH uses data from these investigations to generate fatality investigation reports and a database of case results that guides the development of prevention and intervention activities. Since 1997, there have been four fire fighter fatality investigations in North Carolina, including the following example:

### ***North Carolina: Motor Vehicle Incident Involving Amtrak Train Causes Death of Career Fire Fighter***

On March 17, 2000, a 31-year-old fire fighter was killed after the fire truck he was driving collided with an Amtrak train at a railroad crossing. The victim was not wearing a seat belt and was driving around the lowered safety gate at the crossing. NIOSH investigators recommended that: fire fighters follow standard operating procedures and state motor vehicle codes for operating emergency vehicles during emergency and non-emergency travel; fire fighters riding in emergency fire apparatus wear seat belts; and, in communities with a high volume of railway traffic, fire fighters be educated about railway rights-of-way.

## **Building State Capacity**

### ***State-Based Surveillance***

NIOSH funds the Adult Blood Lead Epidemiology and Surveillance Program (ABLES) in the North Carolina Department of Environmental Health and Natural Resources/Division of Public Health. Through ABLES, the agency's staff track and respond to cases of excessive lead exposure in adults which can cause a variety of adverse health outcomes such as kidney or nervous system damage and potential infertility.

### ***University of North Carolina at Chapel Hill Education and Research Center (ERC)***

One of 16 NIOSH ERCs nationwide, this ERC trains practitioners and researchers in industrial hygiene,

occupational medicine, and occupational health nursing. The occupational medicine residency program is located at Duke University. The ERC also provides an extensive continuing education and outreach program and a hazardous substance training program. In fiscal year 2001, 66 students were enrolled and 12 were graduated. One-hundred-eighteen continuing education courses were conducted for 2,529 professionals. At Duke University, four residents were in training and one was graduated. Twelve continuing education courses were conducted for 833 practicing professionals.

### ***Graduate Training Grants***

NIOSH funds an occupational safety and health consortium at East Carolina University which consists of an intra-university group from the Schools of Industry and Technology, Medicine, and Allied Health Sciences. In fiscal year 2001, 52 students were enrolled and seven were graduated; 124 continuing education courses were provided to 227 trainees. At North Carolina State University, NIOSH has supported a safety and ergonomics program since 2000.

### ***St. Augustine's College***

NIOSH supports this undergraduate program in occupational health and safety at the only historically black College offering a bachelor's of science degree in industrial hygiene and safety. In fiscal year 2001, three students were enrolled.

## **Extramural Programs Funded by NIOSH**

The following are examples of recent research contracts, research grants, training grants, or cooperative agreements funded by NIOSH in the state of North Carolina.

### ***Southern Coastal Agromedicine Center***

In fiscal year 2001, the Center was established at the North Carolina Agromedicine Institute. The Center, one of ten NIOSH Centers for Agricultural Disease and Injury Research, Education, and Prevention nationwide, is located at East Carolina University and will address agricultural, forestry, and fishing health and safety issues common to the southeastern coastal plains and the southern Appalachian region of the U.S., Puerto Rico, and the Virgin Islands. The program includes research, education, prevention, and intervention projects on traumatic injuries, pesticide health risks, ergonomic injuries, and reactive airway disease.

### ***Injury Prevention for Furniture Manufacturing Workers***

In North Carolina, over 78,400 people work in the furniture manufacturing industry. Many of these workers are at risk for musculoskeletal disorders because of the physical nature of their work. With support from NIOSH, researchers at North Carolina State University are developing interventions to reduce the exposure and risk of musculoskeletal disorders for furniture manufacturing workers in the state.

*Additional information regarding NIOSH services and activities can be accessed through the NIOSH home page at <http://www.cdc.gov/niosh/homepage.html> or by calling the NIOSH 800-number at 1-800-356-NIOSH (1-800-356-4674).*

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<sup>1</sup>U.S. Department of Labor (DOL), Bureau of Labor Statistics (BLS), Local Area Unemployment Statistics, Current Population Survey, 2000.

<sup>2</sup>DOL, BLS in cooperation with state and federal agencies, Census of Fatal Occupational Injuries, 1999-2000.

<sup>3</sup>DOL, BLS in cooperation with participating state agencies, Survey of Occupational Injuries and Illnesses, 2000.

<sup>4</sup>National Academy of Social Insurance, *Workers' Compensation: Benefits, Coverage, and Costs, 2000 New Estimates*, May 2002.

